

WHAT IS CLAIMED IS:

1. A solution film-forming method for producing a cellulose acylate film in which a cellulose acylate solution is prepared and subjected to filtration before subjected to film-forming, wherein a filter aid is used in the filtration.
2. The solution film-forming method according to claim 1, wherein the filter aid has composition including SiO_2 in 50% or more.
3. The solution film-forming method according to claim 1, wherein the filter aid is a cellulose-based aid.
4. The solution film-forming method according to claim 1, wherein the filter aid is a mixture of a cellulose-based aid and another aid including SiO_2 in 50% or more.
5. The solution film-forming method according to claim 1, wherein the filter aid comprises a mixture of two or more filter aids.
6. The solution film-forming method according to claim 1, wherein the filter aid has an average particle size in a range of from 1 to 150 μm .
7. The solution film-forming method according to claim 1, wherein the filter aid has a standard deviation of particle size of 0.5 times an average particle size or smaller.
8. The solution film-forming method according to claim 1, wherein the filter aid has a bulk density in a range of from 0.01 to 0.8 g/cm^3 .
9. The solution film-forming method according to claim 1, wherein the filter aid is added to the cellulose acylate solution in an amount of from 0.01 to 10% by weight.
10. The solution film-forming method according to claim 1, wherein a filtration support is precoated in a thickness of from 0.1 to 10 mm using a precoat liquid in which the filter aid is

dispersed.

11. The solution film-forming method according to claim 10, wherein the precoat liquid has a terminal velocity of the filter aid in a range of from 10^{-4} to 1 cm/s.

12. The solution film-forming method according to claim 1, wherein a filtration support is precoated in a mass of from 0.1 to 5 kg/m² using a precoat liquid in which the filter aid is dispersed.

13. The solution film-forming method according to claim 12, wherein the precoat liquid has a terminal velocity of the filter aid in a range of from 10^{-4} to 1 cm/s.

14. The solution film-forming method according to claim 1, wherein a flow rate in the filtration is in a range of from 0.1 to 50 cm/hr.

15. The solution film-forming method according to claim 1, wherein initial pressure difference in the filtration is in a range of from 0.01 to 1 MPa.

16. The solution film-forming method according to claim 1, wherein filtration pressure in the filtration is in a range of from 0.01 to 4 MPa.

17. The solution film-forming method according to claim 1, wherein pressure difference in the filtration is in a range of from 0.01 to 3 MPa.

18. The solution film-forming method according to claim 1, wherein a thickness of a cake layer in the filtration is in a range of from 0.1 to 80 mm.

19. The solution film-forming method according to claim 1, wherein the filtration is carried out in a pressure condition where the cellulose acylate solution does not boil and at a temperature 20°C lower than a boiling point of the cellulose acylate solution at normal pressure or higher.

20. The solution film-forming method according to claim 1, wherein the filter aid is dispersed in the cellulose acylate solution at a temperature in a range of from a boiling point of the cellulose acylate solution at normal pressure to a temperature 20°C lower than the boiling point, and the filtration is carried out after saturation of dissolved air bubble in the cellulose acylate solution is reached 90% or lower.
21. The solution film-forming method according to claim 1, wherein the filtration is carried out at a temperature lower than that for dispersing the filter aid in the cellulose acylate solution.
22. The solution film-forming method according to claim 1, wherein a concentration of the filter aid in the cellulose acylate solution is 10,000 particles/cm³ or less after the filtration.
23. The solution film-forming method according to claim 1, wherein the cellulose acylate solution after the filtration is subjected to post-filtration by a filter having an absolute filtration accuracy of from 2 to 50 μ m.
24. The solution film-forming method according to claim 1, wherein a filter machine in which the filtration has been carried out is backwashed with a cleaning solvent, and the cleaning solvent is supplied in circulation, in a pressure condition where the cleaning solvent does not boil, after being heated to a temperature 20°C lower than a boiling point of the cellulose acylate solution or higher.
25. The solution film-forming method according to claim 24, wherein the cleaning solvent is a non-chlorine organic solvent.
26. The solution film-forming method according to claim 1, wherein a cake formed on a filtration support by the filtration is discharged as slurry having a concentration in a range of from 1 to 50 kg/m³.
27. The solution film-forming method according to claim 26, wherein the slurry is reused as at least one of a precoat liquid and a body feed liquid.

28. The solution film-forming method according to claim 26, wherein the discharged slurry of the cake is separated to solvent and the filter aid, and the filter aid is then burned at 400°C or higher for reuse.
29. The solution film-forming method according to claim 28, wherein the burned filter aid is mixed with a virgin filter aid for use.
30. The solution film-forming method according to claim 1, wherein the cellulose acylate solution that has been subjected to the filtration is formed to a film by co-casting.
31. A cellulose acylate film prepared in the solution film-forming method according to claim 1.
32. The cellulose acylate film according to claim 31, wherein a number of bright point defects observed under crossed-Nicol having a size of 20 μm or more is 0 defect/5 cm^2 , 10 μm or more is 10 defects/5 cm^2 or less, and 5 μm or more is 10 defects/5 cm^2 or less, a number being an average of five samples of 5 cm^2 in a width direction.